The link from shame proneness and narcissism to aggression: the mediating effect of externalization of blame

.
Kirsi Riitta Sinikka Paukku
Master's Thesis
Psychology
Faculty of Medicine
July 2021
Supervisor: Ville Harjunen

HELSINGIN YLIOPISTO
HELSINGFORS UNIVERSITET
UNIVERSITY OF HELSINKI

Abstract

Faculty: Faculty of Medicine

Degree programme: Master's Programme in Psychology

Study track: Psychology

Author: Kirsi Riitta Sinikka Paukku

Title: The link from shame proneness and narcissism to aggression: the mediating effect of externalization of blame

Level: Master's Thesis

Month and year: July 2021

Number of pages: 48

Keywords: shame, shame proneness, narcissism, blame externalization, aggression

Supervisor or supervisors: Ville Harjunen

Where deposited: Helsinki University Library – Helda / E-thesis (theses); ethesis.helsinki.fi

Additional information:

Abstract:

Aims. Shame-prone people have been found to be prone to both cognitive externalization of blame and aggressive behavior. Aggression and externalization of blame have also been linked to narcissistic personality in several studies. The present study sought further evidence on the mediating role of externalization of blame with regards the relationship between shame proneness and aggression and narcissism and aggression.

Methods. Total of 564 volunteer students, aged from 18 to 57 years of age, participated in this study. The participants had answered an e-form, including background information, the Narcissistic Personality Inventory (NPI), TOSCA-3 meter for measuring shame proneness and tendency to externalize blame, and the Anger Response Inventory (ARI). Explorative factor analyzes were used for analyzing the data. The relationships between shame proneness, narcissism, externalization of blame and verbal and physical aggression were further studied using mediation analysis with bootstrapping.

Results and Conclusions. In the present study, the earlier results regarding the presence of both direct and indirect links of shame proneness and narcissism to verbal aggression were repeated. In contrast to earlier studies, where externalization of blame was shown to mediate the connection between shame proneness and physical aggression entirely, also a direct link between these constructs was found in this study. In addition, the study provided also indications of the presence of both direct and indirect links between narcissism and physical aggression. The results thus show that externalization of blame mediates the relationship of both shame proneness and narcissism to both verbal and physical aggression. Overall, the study has its contributions to the research of shame proneness and narcissism and provides a partial answer to the question why aggression occurs.

HELSINGIN YLIOPISTO
HELSINGFORS UNIVERSITET
UNIVERSITY OF HELSINKI

Tiivistelmä

Tiedekunta: Lääketieteellinen tiedekunta

Koulutusohjelma: Psykologian maisteriohjelma

Opintosuunta: Psykologia

Tekijä: Kirsi Riitta Sinikka Paukku

Työn nimi: The link from shame proneness and narcissism to aggression: the mediating effect of externalization of blame

Työn laji: Pro Gradu -tutkielma

Kuukausi ja vuosi: Heinäkuu 2021

Sivumäärä: 48

Avainsanat: häpeä, häpeäherkkyys, narsismi, syyn ulkoistaminen, aggressiivisuus

Ohjaaja tai ohjaajat: Ville Harjunen

Säilytyspaikka: Helsingin yliopiston kirjasto – Helda / E-thesis; ethesis.helsinki.fi

Muita tietoja:

Tiivistelmä:

Tavoitteet. Häpeäherkkien ihmisten on havaittu olevan taipuvaisia sekä kognitiiviseen syyn ulkoistamiseen että aggressiiviseen käyttäytymiseen. Aggressiivisuus ja syynulkoistamistaipumus on useissa tutkimuksissa liitetty myös narsistiseen persoonallisuuteen. Tässä tutkimuksessa pyrittiin saamaan lisätietoa siitä, kuinka syyn ulkoistaminen välittää häpeäherkkyyden ja narsismin yhteyttä verbaalisen ja fyysisen aggressiivisuuteen.

Menetelmät. Tähän tutkimukseen osallistui 564 iältään 18–57-vuotiasta vapaaehtoista opiskelijaa. Osallistujat olivat vastanneet sähköiseen lomakkeeseen, joka sisälsi taustatietoja selvittävän osuuden, NPI-narsismimittarin, TOSCA-3-mittarin häpeäherkkyyden ja syynulkoistamistaipumuksen mittaamiseksi sekä ARI-aggressiivisuusmittarin. Analysointiin käytettiin eksploratiivisia faktorianalyysimenetelmiä. Häpeäherkkyyden, narsismin, syyn ulkoistamisen sekä verbaalisen ja fyysisen aggressiivisuuden välisiä suhteita tutkittiin edelleen bootstrap-mediaatioanalyysillä.

Tulokset ja johtopäätökset. Tutkimuksessa toistuivat aikaisemmat havainnot siitä, että häpeäherkkyydellä ja narsismilla on sekä suora että syyn ulkoistamistaipumuksen välittämä epäsuora yhteys verbaaliseen aggressiivisuuteen. Lisäksi saatiin näyttöä häpeäherkkyyden ja fyysisen aggressiivisuuden välisen suoran yhteyden olemassaolosta aikaisemmin osoitetun syyn ulkoistamisen välittämän epäsuoran yhteyden lisäksi. Tutkimuksesta saatiin lisäksi viitteitä narsismin ja fyysisen aggressiivisuuden välillä olevasta sekä suoran että syyn ulkoistamistaipumuksen välittämän epäsuoran yhteyden olemassaolosta. Tulokset osoittavat siis, että syyn ulkoistaminen välittää osittain sekä häpeäherkkyyden että narsismin yhteyttä sekä verbaaliseen että fyysiseen aggressiivisuuteen. Kaiken kaikkiaan tutkimus antaa panoksensa häpeäherkkyyden ja narsismin tutkimukseen ja antaa osittaisen vastauksen siihen, miksi aggressiivisuutta esiintyy.

Table of contents

1 Introduction

Observers of human relationship have long sought an explanation for what restrains aggression, competitiveness, and selfishness. Breggin (2015) has emphasized that human history, cultural anthropology, evolution, as well as modern times, confirm that human beings have always been not only the most social but also the most violent creatures on Earth. Besides human beings, there exist few other creatures that show such a substantial tendency to harm their own kind. We are far ahead of all other creatures in having this unique combination of desiring social life and tendency for violence. According to Andrew et al. (2015), acts of aggression are a key social concern, with significant costs existing at both the economic and the personal level. Researchers of human behavior have long sought an explanation for what restrains aggression as understanding the underpinnings of aggression is of substantial importance. It has been a long-standing view in psychology that feelings of inferiority or low self-esteem predispose people to aggressive or violent behavior (Horney, 1950). Already Darwin (1871) suggested that our baser instincts can be controlled as well by positive feelings of sympathy as painful inhibiting feelings of shame and humiliation.

Violence and aggression often occur when an individual's pride, reputation, or self-esteem has been questioned or threatened (Thomaes et al., 2008). Shame is a painful, self-focused affect, described as one of the most difficult emotions to identify and to attribute to oneself (Lewis, 1971). Following some failure or transgression, the self is painstakingly examined, evaluated, and found to be deficient in some way (Fischer et al., 1995). This negative self-scrutiny results in a sense of being unworthy, small, and powerless. An individual's response to shame can range from aversion to removal, suppression, or even denial of the feeling of shame. Several studies have been conducted and theories created to sort out how individuals cope with the feeling of shame. Nathanson (1992) has presented a shame management model that individuals use for dealing with their sense of shame. In this model, individuals engage in four maladaptive strategies: avoidance, withdrawal, self-attack, and attacking other. Smilarly, Schoenleber and Berenbaum (2012)

acknowledged three classes of dysfunctional shame-regulation strategies: prevention, escape and aggression.

Among many other responses, shame has been associated with anger and blame shifting (Stuewig et al., 2010; Thomaes et al., 2011). It has been proposed that individuals can use defensive strategies such as rage, humor, contempt, denial, withdrawal and blame of others as well as striving for perfection or power in order to cope with shame (Birtchnell, 1997). In addition, in studies exploring responses to shame in individuals with eating disorders, it was found that individuals can implement various coping strategies, such as aggression, submission, avoidance and withdrawal, compensation, destruction of the object of shame, or help-seeking (Goss & Allan, 2009).

Although each of us experiences shame every now and then, clear differences can be observed between individuals in how often and how strongly this emotion is experienced (Tangney, 1990; Tangney & Dearing, 2002). Shame proneness refers to an individual's tendency to evaluate themselves negatively because of failure or moral wrongdoing, and a tendency to escape or hide in those situations. According to Tangney & Dearing (2002), such a combination of tendencies can be thought of as reflecting an individual's overall proneness to experiencing feelings of shame. Based on negative self-perceptions, shame-prone individuals are their own toughest critics, evaluating themselves even more negatively than they believe others do (Tangney et al., 1996). Shame proneness has been combined not only with anger, but also with hostility and aggressive intentions as well as with verbal and physical aggression (Stuewig et al., 2010; Tangney et al., 1996; Thomaes et al., 2008).

More often, shame proneness is measured using a scenario-based Test of Self-Conscious Affect (TOSCA) meter (Tangney & Dearing, 2002) where respondents are presented with scenarios that they may encounter in their daily life. TOSCA measures situational reactions expressing shame proneness in which an individual feels unsuccessful, helpless, lonely, unable, and willing to escape or hide from the eyes of others (Tangney & Dearing, 2002). TOSCA is designed to assess individual differences in six dimensions: proneness to shame, proneness to guilt, externalization of

blame, detachment unconcern, pride in self (alpha-pride), and pride in behavior (beta-pride) (Tangney, 1989).

In addition to shame proneness and shame, also narcissism has been related to aggression. The current concept of narcissism is thought to include both socially adaptive aspects and detrimental to social adaptation (non-adaptive) aspects (Cain et al., 2008; Miller, J. D. et al., 2009), and especially the non-adaptive narcissism has been found to be associated with aggression (Reidy et al., 2008). However, according to a recent meta-analysis by Kjærvik and Bushman (2021) the correlations of both normal and pathological narcissism do not significantly differ in size suggesting that narcissism levels need not be pathological to be a risk factor for aggression.

Baumeister, Smart, and Boden (1996) did not accept the long-standing view first presented by Horney (1950) that low self-esteem predisposes an individual to aggression. They proposed instead that violence most commonly occurs when inflated views of self and unstable beliefs in personal superiority are threatened. On the other hand, it has been argued (Zanetti & Patel, 2014) that it is not just the level of self-esteem but its stability that is relevant. Self-esteem stability refers to the magnitude of short-term fluctuations that people experience in their contextually based, immediate feelings of self-worth (Kernis et al., 1993). Subsequently, researchers have looked to newer concepts that capture both level and stability of self-esteem. Several studies have focused on narcissism (Baumeister et al., 2000; Bushman, B. J. & Baumeister, 1998) because it captures a self-view that is highly favorable (high self-esteem) and, at the same time, vulnerable to ego threat (unstable). Intuition may suggest that narcissism corresponds to excessively high self-esteem, but research has showed that narcissism and self-esteem are not strongly correlated (Brown & Zeigler-Hill, 2004).

There is a growing consensus that narcissism is not a unitary construct. Instead, narcissism has different dimensions, although not all researchers agree on what those dimensions are. Some scholars have suggested that narcissism can be conceptualized as two distinct constructs; normal or healthy narcissism and pathological narcissism (Pincus & Lukowitsky, 2010; Raskin, Robert & Terry, 1988; Watson et al., 1996). The normal or adaptive narcissism includes strategies used to promote a positive self-image and facilitate agency by psychologically healthy individuals and

considered a psychologically healthy trait. Individuals with healthy narcissism possess an ideal and arrogant sense of self, assert dominance in social situations, use self-enhancement in adaptive ways, and can deal effectively with their environment. In contrast, pathological or maladaptive narcissism is characterized by behavior that causes distress and impairment. According to Schoenleber et al. (2015) pathological levels of narcissism are associated with clinically relevant mental health problems such as depression, suicidal ideation, pathological gambling, aggression, and violence. In addition, individuals with pathological narcissism have significant regulatory deficits and maladaptive strategies to cope with self-image threats suggesting that they might be especially prone to lash out at others in an aggressive manner when they are threatened.

On the other hand, grandiose and vulnerable subtypes of narcissism have been suggested (Dickinson & Pincus, 2003; Wink, 1991). More recently, some scholars have shared the opinion that the narcissism spectrum can best be represented using three correlated factors (Wright, A. G. & Edershile, 2018). This model consists of an essential core of narcissism, as well as two peripheral components. Depending on the source the core component has been called either entitlement (Krizan & Herlache, 2018) or antagonistic (Miller, J. D. et al., 2017). Similarly, the two peripheral components have been called either grandiosity and vulnerability (Krizan & Herlache, 2018), or extraverted and neurotic (Miller et al., 2017) . Grandiose narcissism is marked by high self-esteem and overconfidence, explicit self-absorption, arrogance, a sense of personal superiority and entitlement, a willingness to exploit others for self-gain, and aggression when challenged (Emmons, 1987; Miller, Joshua D. et al., 2011; Raskin & Terry, 1988). Vulnerable narcissists are self-absorbed, exploitative, aggressive, and harbor grandiose thoughts, much like grandiose narcissists (Krizan & Johar, 2015; Miller et al., 2011). An individual high in vulnerable narcissism is often referred to as “unpredictable and prone to act out unexpectedly” (Greene, 1991). Vulnerable narcissism has been shown to be even more strongly associated to high levels of entitlement rage than grandiose narcissism (Miller, Joshua D. et al., 2013; Zeigler-Hill et al., 2010).

The narcissistic personality refers to the ability and willingness to use numerous covert and overt self- and emotional regulation techniques, as well as interpersonal relationships, as tools to achieve self-enhancing experiences in a social environment (Pincus & Lukowitsky, 2010) (Pincus

& Lukowitsky, 2010). The Narcissistic Personality Inventory (NPI) was originally developed from the description of narcissistic personality disorder (Ackerman et al., 2011). NPI is a 40-item self-report questionnaire that assesses non-pathological narcissistic personality features (Clarke et al., 2015) and is currently the most widely used measure of the trait narcissism (Gentile et al., 2013).

According to Shahsavarani (2015), anger is an instinctive and pervasive emotion, which can dominate one's actions. While anger is a feeling, aggression is the behavior or action taken that is hostile, destructive and/or violent. Social psychologists define aggression as behavior that is intended to harm another individual who does not wish to be harmed (Baron & Richardson, 1994). Because it involves the perception of intent, what looks like aggression from one point of view may not look that way from another, and the same harmful behavior may or may not be considered aggressive depending on its intent. Intentional harm is, however, perceived as worse than unintentional harm, even when the harms are identical (Ames & Fiske, 2013).

Experimental results demonstrate that social exclusion and shame diminish self-regulation, increasing anger and aggression (MacDonald & Leary, 2005; Thomaes et al., 2011; Wright, K. et al., 2008). According to Elison and colleges (2014), the chain of events linking shame to anger, and aggression begins with relational devaluation in its limitless forms, which elicits shame – acknowledged or not. It seems that the pain of the emotion of shame – humiliated rage – motivates people to behave aggressively. Social psychologists agree that aggression can be verbal as well as physical. According to Vassilopoulos and Reitman (2020), verbally or physically aggressive behaviors may be interpersonal, serve a secondary or primary function, be independently initiated or provoked, and be direct or indirect in nature. Physical aggression may include hitting, kicking, scratching, pushing, biting, punching, grabbing, throwing objects, pinching, cutting, and stabbing. Verbal aggression is typically considered as insulting, obscene or profane language or sexual advances.

Researchers of both shame proneness and narcissism explain the association with shame and aggression in the same way. According to Tangney and Dearing (2002) and Thomaes et al. (2008), the aggressive behavior of shameful and narcissistic individuals is due to the inability of individuals to tolerate feelings of shame and the desire to protect themselves from the experience of shame. Despite a similar association associated with aggression, shame proneness and

narcissism in many respects represent almost opposite relationships to an individual's self-esteem. Shame proneness has been found to be associated with low self-esteem and global negative evaluation of the self (Tangney & Dearing, 2002), while narcissistic personality has at least in some studies been found to be associated with high self-esteem and unfoundedly optimistic self-perceptions (Pincus et al., 2009). As reported in the DSM-5 (American Psychiatric Association, 2013), variable and vulnerable self-esteem is one of the typical features of narcissistic pathology. Accordingly, in some studies narcissism has been associated to high self-esteem, while in other studies narcissism and self-esteem were not strongly correlated (Brown & Zeigler-Hill, 2004; Pincus et al., 2009). On the other hand, when individuals experience shame, the devaluation of self is perceived, and it may lower self-esteem. Thus, it can be assumed that shame experience is closely related to fluctuations in self-esteem (Elison et al., 2014). Thus, the instability of self-esteem may be common for both shame proneness and narcissism and explain the connection of shame proneness and narcissism to aggression.

In Bennett et al. (2005) study with young children, clear support was found for a model in which anger acted as a mediator between shame and externalizing problems. Another potential mediating variable between shame and externalizing problems is blaming, which can be directed inwards (self-blame) or outwards (externalized blame). Externalization of blame refers to cognitive tendency to shift an unpleasant feeling of being in fault outside oneself (Tangney et al., 1996). Tendency to externalize blame has been consistently linked to shame proneness (Furukawa et al., 2012; Tangney et al., 1992; Tangney et al., 1996), and has been found to mediate the link between shame proneness and aggression (Stuewig et al., 2010), as well as the association of shame proneness and anger (Bear et al., 2009). Based on previous studies, narcissists are theorized to be prone to externalize blame (Annala, 2015; Hoover, 2014; Pincus et al., 2014).

Consistent with cognitive dissonance theory (Gosling et al., 2006) and attribution theory (Weiner, 2006; Weiner, 1995), feeling of shame or guilt can be avoided and the self is protected by directing blame to others. However, this is at the expense of greater anger toward others. Prior studies have not examined whether blame externalization mediates link between narcissism and aggression. According to Hirschi (1969), blame externalization is congruent with the "not my fault" global irresponsibility displayed by psychopathic individuals in general. Refusing to accept

responsibility for one's antisocial conduct is accomplished by deflecting blame outward. From the perspective of psychopathic offenders, blame externalization releases them of the obligations of work, family and school commitments, and enables their disengagement from conventional social bonds.

1.1 Research hypotheses

Empirical evidence from previous studies suggests that shame proneness and anger tendencies have a positive association. Shame proneness is empirically linked to anger, indirect hostility, and irritability (Tangney et al., 1992). Shame proneness has also been found to be linked to physical and verbal aggression, as well aggressive reactions, malicious and contentious intentions, and self-directed aggression (Tangney et al., 1996). In addition, shame has predicted aggression under laboratory conditions (Thomaes et al., 2008).

The results of Stuewig et al. (2010) showed that the human cognitive tendency to externalize blame fully mediated the link between shame proneness and verbal aggression but results by Bear et al. (2009) and Annala (2015) showed that externalizing of blame conveyed the relationship between shame and anger only partly.

The present study seeks further evidence on how externalization of blame mediates the relationship between shame proneness and different types of aggression. The assumption of this study is that the cognitive tendency to externalize the blame is just one of the reasons why shame proneness leads to aggression.

This leads to the first hypothesis (*H1*):

1) Externalization of blame mediates the relationship between shame proneness and a) verbal aggression and (b) physical aggression

This study assumes, based on previous clinical evidence, that narcissists are cognitively inclined to externalize blame and that the relationship between narcissism and verbal and physical aggression is mediated by the tendency to externalize blame (Hoover, 2014; Pincus et al., 2014).

This leads to the second hypothesis (*H2*):

2) Externalization of blame conveys part of the relationship between narcissism and a) verbal aggression and (b) physical aggression

2 Methods

2.1 Participants

The sample consisted of healthy volunteer students taking part in a survey conducted in two waves the first taking place between 2012 and 2013 (N = 393, (Annala, 2015; Harjunen, 2014)) and the second in 2017 (N = 171). The participants were recruited using an e-form invitation sent to student organization email lists. The gender information was obtained from 559 participants of whom 74.3 % (419) were women, and 24.8 % (140) were men. The participants' age varied from 18 to 57 years with mean of 27.3 years and standard deviation of 6.8 years.

2.2 Measures

In addition to background information (gender, age, study place), the e-form included TOSCA-3 for measuring shame proneness (Tangney et al., 2000), NPI-40 for measurement of narcissistic personality features, and an Anger Response Inventory (ARI) (Tangney et al., 1991) measuring verbal and physical aggression.

2.2.1 Shame proneness, guilt-proneness, and externalization of blame

TOSCA-3, the most recent version of the TOSCA meter, was used in this study for measuring proneness to shame and guilt, as well as externalization of blame (Tangney et al., 2000). In TOSCA-3, the scale is built from 16 everyday adult-life scenarios. It is the respondent's task to imagine himself in a scenario situation and evaluate on a five-point Likert scale (1: not likely; 5: very likely), how likely he would act as proposed. Each scenario offers several different response options, and the participant is encouraged to evaluate all possible courses of action. This is to

take account of the fact that people may feel and act differently in the same situation or act differently in different times. For example,

At work, you wait until the last minute to plan a project, and it turns out badly.

a) *You would feel incompetent.*
b) *You would think: "There are never enough hours in the day."*
c) *You would feel: "I deserve to be reprimanded for mismanaging the project."*
d) *You would think: "What's done is done."*

High values in choice a) would indicate shame, in b) externalization in c) guilt, and in d) detachment from the situation.

2.2.2 Narcissistic personality features

To measure adaptive and non-pathological narcissistic personality features, the NPI-40 self-report questionnaire, originally developed from the description of NPD, was used (Ackerman et al., 2011; Clarke et al., 2015; Raskin, R. N. & Hall, 1979). The NPI-40 measure consists of 40 paired statements, and the task is to choose the alternative describing oneself best. For example,

a) I have a natural talent for influencing people.

b) I am not good at influencing people.

The answer a) reflects narcissism. It is supposed that forcing to choose one of the alternatives prevents social desirability responses (Harjunen, 2014).

The original developers of the questionnaire, Raskin & Hall (1979), assumed that NPI measured seven different factors; exploitativeness, exhibitionism, entitlement, superiority, self-sufficiency, authority, and vanity (Ackerman et al., 2011). Others have suggested 2, 3, and 4 factors, but none of these have shown acceptable levels of internal consistency and inconsistent factor structure, leading to the general employment of NPI total score (Pincus & Lukowitsky, 2010).

NPI meter has earlier been successfully used to measure some features of pathological narcissism (Miller et al., 2009). Based on the current evidence, it is unclear what aspects of narcissism the full scale of NPI measures, and how the subscales are positioned relative to the vulnerability and

grandiosity (Pincus & Lukowitsky, 2010). NPI-40 is thought to measure especially the grandiose site of narcissism and it has been the most widely used measure of grandiose narcissism (Gentile et al., 2013). Entitlement and exploitation subscales are expected to measure non-adaptive narcissism more closely than the full scale (Ackerman et al., 2011), but also the full scale is assumed to be able to measure it enough to show the relationship with aggression.

2.2.3 Verbal and physical aggression

ARI's response options map the respondent's tendencies to behave aggressively, get angry in different ways, develop different aggressive intentions in anger-provoking situations, to react in other ways in different situations and to assess the likely consequences of the responses (Tangney et al., 1991). Like TOSCA-3, ARI is a scenario-based meter containing 23 everyday situations in which the respondent is expected to feel anger or frustration. In each scenario, the respondent is instructed to rate on a scale of 1 to 5 how angry he would feel himself in that situation (a). In addition, respondents should consider how strongly they would otherwise feel (points b to d) how likely they would be to act according to the options offered (e to k) and what kind of sanctions they think in the longer term (k – m).

For example,

You are waiting for a waiter in a restaurant. 15 minutes have passed, and you have not even received a menu yet.

a) How angry would you feel about the situation?

b) How much would you feel like you would like to balance the accounts with a waiter or restaurant?

c) How much would you feel like you would like to fix the situation?

d) How much would you feel you would like "Let the steam out" (dissipate your feelings)?

e) I would not leave a tip.

f) I went to pick up the menu myself.

g) I would just sit and wait.

h) The longer I sit in my seats, the more I think about how angry I am.

i) I would knock the table hard with a knife as the waitress walked past me.

j) I would think that the waitress must have just started working in the restaurant.

k) I would sneeze at the person sitting with me.

l) Would long-term sanctions be harmful or favorable?

The ARI scales represent four broad categories of anger-related dimensions: anger arousal, intentions, cognitive and behavioral responses to anger (including maladaptive behaviors such as aggression, adaptive behaviors such as nonhostile discussion, escapist/diffusing responses, and cognitive reappraisals) and participant's assessment of the likely long-term consequences of the anger episode. Regarding the present study, behavioral responses were especially important and among them direct aggression. Direct aggression involves actions aimed directly at the target of one's anger. The measurements by Tangney and Dearing (2002) distinguished among physical, verbal and symbolic forms of direct aggression.

2.3 Analysis

For all the statistical analyses, SPSS 26.0 (IBM Corp., 2019) was used. Explorative factor analyzes, namely principal axis factoring (PAF) and principal component analysis (PCA), and mediation analysis (Bootstrapping) were used for analyzing the data. The main statistical method in this study was simple mediation. In simple mediation with three variables, the middle variable is considered a mediator (indirect effect) that represents at least part of the chain of events leading to changes in the dependent variable (Tabachnick & Fidell, 2014). Mediation methods can often be used to study psychological processes more subtly: they can explain under what circumstances or under which interaction the phenomenon studied emerges. It is important to look at indirect relationships also because they can also be found when there is no direct relationship between independent and dependent variable (Rucker et al., 2011).

3 Results

3.1 Validity and reliability of the inventories

3.1.1 TOSCA-3

The structural validity of TOSCA-3 inventory was examined by PAF (N = 562), which suggested the presence of 14 factors. Next, 48 items of sub-scales measuring shame proneness, guilt proneness and externalization of blame were examined, because these lower sales were previously shown to be well factorizable (Annala, 2015). The scales measuring pride and detachment from the situation were omitted from analyzes as they were not relevant to the hypotheses of this study.

Factorability was tested using Kaiser-Mayer-Olkin (KMO) sampling relevance and Bartlett sphericity tests. TOSCA-3 section assemblies were well factorizable according to the tests (KMO = .82 and Bartlett 's test $\chi^2(1128) = 6081{,}24$; $p < .001$). Due to theoretical assumptions, the number of factors was limited to three. The interpretation of the Scree image supported a three-factor solution. Direct oblimin was chosen as the rotation method according to the recommendations of Field (2009).

As the reference point for the examination of factor loadings was the Hair et al.'s (2014) rule of thumb, that factor loading of .30 meets the minimal level for interpretation of structure and can thus be accepted to the sum variable. Items loaded to their dimensions almost as expected (Appendix A). Three factors, namely, shame proneness, externalization of blame and quilt proneness were identified. Three of 48 items did not load to any factor. In addition, six items did not load most strongly to their theoretical factors. Although the communalities were generally low, all variables that, according to the coding key retrieved from the literature (Tangney & Dearing, 2002), reflected shame proneness or externalization of blame, were included in the formation of the subsequent sum variable. The variables reflecting guilt proneness were left out, because they were out of the scope of the present research hypotheses. The sum scores formed were thus one for shame proneness and another for externalization of blame (Tangney & Dearing, 2002). The overall average scores for the questions for each participant were calculated when the sum scores were formed. The reliability review confirmed that the sum variables generated were internally

coherent. The Cronbach's alpha value for the sum score of shame proneness was good (α = .81) and for externalization of blame acceptable (α = .72).

3.1.2 NPI-40

The structural validity of the NPI-40 meter was examined by PCA (N = 564), which suggested the presence of 13 factors. In research conducted before, the structures of 2, 3, 5 and 7 factors have been suggested (Ackerman et al., 2011; Emmons, 1984; Kubarych et al., 2004; Raskin & Terry, 1988). However, none of these factor structures have shown acceptable levels of internal consistency leading to the general employment of NPI-40 total score (Pincus & Lukowitsky, 2010). In our studies, the best of tested 2, 3, 5 and 7 factor solutions appeared to be the three-factor solution corresponding to a solution reported by Ackerman et al. (2011), but the Cronbach's alpha values suggested insufficient level of internal consistency being α = .67 for factor 'leadership', α =.58 for 'grandiosity/exhibitionism' and α =.44 for 'entitlement/exploitativeness', respectively. Based on this result and previous findings suggesting weak convergent validity of NPI sub-scales, the NPI-40 full score was used in the present study. The NPI-40 full score was obtained by summing all the individual domain total scores. The reliability review (α = .79) confirmed that the sum variable generated was internally coherent.

3.1.3 ARI

The structural validity of the ARI meter was examined by PAF (N = 558). As it was expected that the whole scale would be poorly factorizable, only 27 items measuring verbal and physical aggression were selected based on literature (Stuewig et al., 2010) among all ARI items. The items for verbal aggression included verbal confrontation such as yelling or screaming at a person, and for physical aggression the items described acts physical violence such as hitting or pushing a person. Direct oblimin rotation was used as the rotation method.

The ARI meter section assemblies were well factorizable according to the tests (KMO = .828 and Bartlett's test $\chi^2(315) = 3026.334$; $p < .001$). Items loaded to their dimensions almost as expected

(see Appendix B). However, one item (A9J) did not load to any factor and items A7K, A10H, A12E, A16K and A18K loaded to factor ‘verbal aggression’ although, according to the theory, they should have loaded to factor ‘physical aggression’. Communalities were generally low. However, based on the theory and earlier validation studies, and because deleting variables did not increase the reliability, the analyzes were continued with all items tested in factor analysis.

The sum scores were formed according to the coding scheme of (Stuewig et al., 2010). The overall average scores for the questions for each participant were calculated. The sum scores formed were one for verbal aggression (items A1K, A2I, A3H, A3J, A8E, A9J, A9K, A13F, A14E, A18H, A20K, A21F and A22K) and another for physical aggression (items A4H, A5I, A5K, A6H, A7K, A10H, A12E, A12I, A13E, A16K, A17H, A18K, A21I and A23H), respectively. The sum score generated for verbal aggression was internally acceptable coherent (α = .75), but the internal coherence of the sum score of physical aggression was poor (α = .55).

3.2 Descriptive statistics of shame proneness, narcissism, externalization of blame and verbal and physical aggression

Before testing the hypotheses, it was of interest to examine the descriptive statistics and the distribution of sum variables. The statistics regarding sum variables can be seen in Table 1, and visualizations of the distributions for narcissism, shame proneness, externalization of blame, and verbal and physical aggression are presented in Appendices C-G. In addition, statistics related to variables gender and age are presented in Table 1.

Table 1

Narcissism's, shame proneness', externalization of blame's, verbal aggression's, physical aggression's, gender's and age's Mean, Standard Deviation (SD), Highest and Lowest Scores, and Skewness and Kurtosis (N = 558-564).

Variable	Mean	SD	Minimum	Maximum	Skewness	Kurtosis
Narcissism	11.32	5.74	0	32*	0.53	0.16
Shame proneness	3.03	0.66	1	5	-0.21	-0.33
Externalization	2.21	0.51	1	4	0.32	0.06
Verbal aggression	1.88	0.54	1	4	0.68	0.26
Physical aggression	1.31	0.27	1	3	1.67	4.70
Gender	1.74	0.46			-1.30	0.29
Age	27.31	6.77	18	57	1.95	4.42

* Sum scores for the dimensions were calculated by summing up the item scores (scale 0-40). For shame proneness, externalization of blame and verbal and physical aggression sum scores, the overall average scores for the items for each participant were calculated.

What is worth to note regarding Table 1, is that regarding physical aggression, only values one to three of the five-point Likert scale were used. When it comes to skewness and kurtosis, the closer the value is to zero, the more likely the data is normally distributed (Field, 2009) and the acceptable range for skewness or kurtosis can be set to be between -1.5 and 1.5 (Tabachnick & Fidell, 2013). Thus, regarding the variables shown in Table 1, the sum score of physical aggression and the age variable had skewness and kurtosis outside this range. According to Table 1, the mean of narcissism scores, externalization of blame scores, verbal aggression scores and physical aggression scores were closer to low than high scores. Also, the skewness values indicated that the data had many low scores, but also that the data was fairly symmetrical. The mean of shame proneness was instead closer to high than low end of the continuum. The skewness indicated that the data had many high scores, but also that the data was fairly

symmetrical. The skewness of verbal aggression indicated that the data was moderately skewed, and the skewness of physical aggression indicated that the data was highly skewed. For other variables than the sum score of physical aggression and the score of age the kurtosis value showed that the data was quite close to normally distributed.

To further examine whether the data related to the sum scores was normally distributed, the one-sample Kolmogorov-Smirnov and Shapiro Wilk's tests were used. The results for both tests were significant ($p < .05$) for all sum scores and thus none of the sum scores was normally distributed. However, as with sample sizes this large (> 500) many parametric tests are still reliable even for non-normal data and as the normal distribution plots (Appendices C-G) showed adequate (except for physical aggression), the analyzes were continued with these sum scores.

3.3 The mediating effect of externalization of blame on the relationship between shame proneness and narcissism and verbal and physical aggression

PROCESS 3.5 macro (Hayes, A. F., 2017) was used for IBM SPSS 26, which is an Ordinary Least Squares (OLS) regression-based path analysis approach to mediation. PROCESS model 4 was selected, with shame proneness or narcissism being the independent variable, externalization of blame set as a mediator, and verbal or physical aggression as the dependent variable. To control for the effects of age and gender, they were included as covariates. Relative direct and indirect effects 95% CI's and SE's were estimated from 5000 percentile bootstrap samples.

To test whether externalization of blame mediated the influence of shame proneness and narcissism on verbal and physical aggression, relative direct effects, and direction (±) of the relation were tested following the analysis protocol of Hayes (2017). Unstandardized regression coefficients were used as recommended by (Hayes, 2017). The results regarding the relation between shame proneness and narcissism to externalization of blame (*a*), externalization of blame to verbal and physical aggression (*b*), and relation between shame proneness and narcissism to verbal and physical aggression (*c'*) are shown in Figure 1 and in Tables 2 and 3.

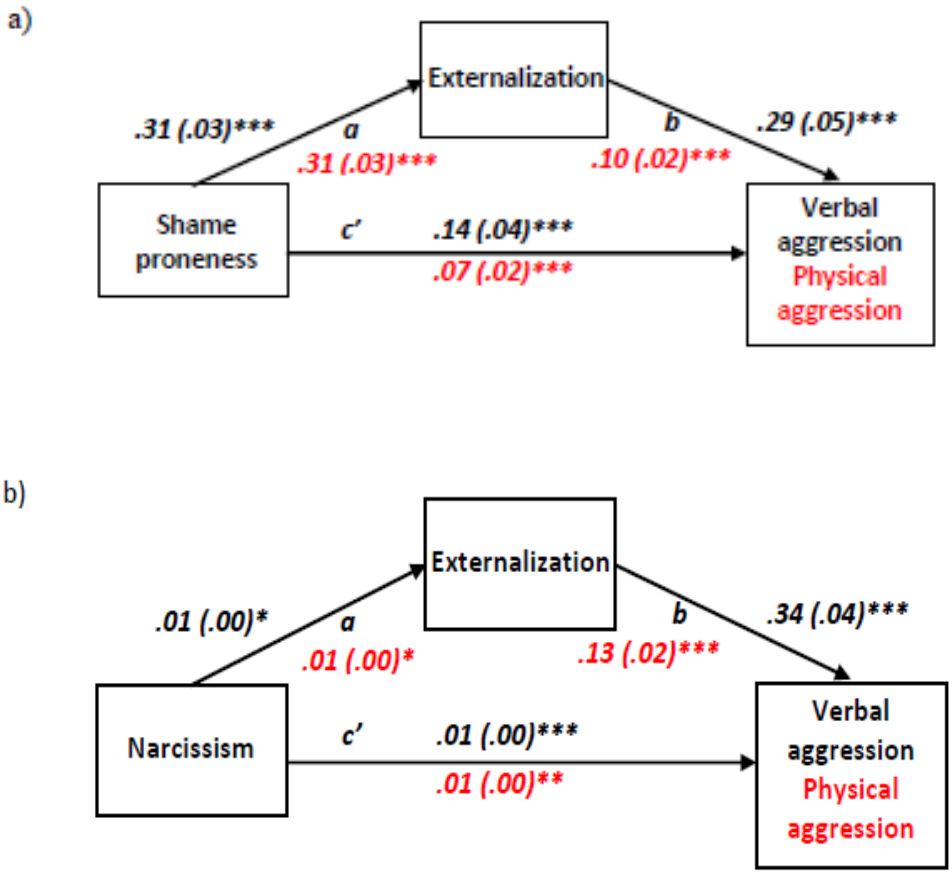


Figure 1. Unstandardized regression coefficients with Externalization (of blame) as a mediator from shame proneness to verbal and physical aggression (a). Unstandardized regression coefficients with Externalization (of blame) as a mediator from narcissism to verbal and physical aggression (b). Estimates when age and gender are included as covariates are shown. Associated SE estimates following in parenthesis. Data related to verbal aggression is shown in black and to physical aggression in red. ***$p < .001$; **$p < .01$; *$p < .05$.

Figure 1a shows that shame proneness was positively associated with externalization of blame ($\beta = .31$, $t(555) = 9.81$, $p < .001$). Externalization of blame, in turn, was positively associated with verbal ($\beta = .29$, $t(555) = 6.37$, $p < .001$) and physical aggression ($\beta = .10$, $t(555) = 4.50$, $p < .001$). As shown in Figure 1b, also narcissism was positively associated with externalization of blame ($\beta = .01$, $t(555) = 2.00$, $p < .05$). Externalization of blame was again positively associated with verbal

($\beta = .34$, $t(555) = 8.18$, $p < .001$) and physical aggression ($\beta = .13$, $t(555) = 6.19$, $p < .001$). Further, shame proneness was directly positively associated with verbal ($\beta = .14$, $t(555) = 3.93$, $p < .001$) and physical ($\beta = .07$, $t(555) = 3.85$, $p < .001$) aggression. Similarly, narcissism was directly positively associated with verbal ($\beta = .01$, $t(555) = 3.60$, $p < .001$) and physical ($\beta = .01$, $t(555) = 2.61$, $p < .01$) aggression.

When the relative indirect effects were tested, it was found that the positive association of externalization of blame with verbal and physical aggression translated into an indirect effect of shame proneness to verbal ($\beta = .09$, Table 2) and physical aggression ($\beta = .03$, Table 2) via externalization of blame. The corresponding indirect effects via externalization of blame were found also regarding narcissism and verbal ($\beta = .003$, Table 3) and physical aggression ($\beta = .001$, Table 3). Mediation was considered as statistically significant if the CI of the indirect effect did not contain zero. Thus, as seen in Tables 2 and 3, the indirect effects were statistically significant. Taken together, these results lend support to hypotheses and suggest that both shame proneness and narcissism lead to verbal and physical aggression via externalization of blame.

Table 2.

Regression analyzes, where shame proneness was an independent variable, externalization of blame was a mediator and verbal and physical aggression were dependent variables (N = 555). Estimates when age and gender are included as covariates are shown.

Shame proneness	Verbal Aggression				Physical Aggression			
	effect	bSE	vLLCI	bULCI	effect	bSE	vLLCI	bULCI
Relative direct effects								
Shame proneness -> aggression	.14***	.04	.07	.21	.07***	.02	.03	.11
Shame proneness -> externalization	.31***	.03	.25	.37	.31***	.03	.25	.37
Externalization -> aggression	.29***	.05	.20	.38	.10***	.02	.06	.15
Relative indirect effect								
Shame proneness -> aggression	.09†	.02	.06	.12	.03†	.01	.02	.05

* $p < .05$. ** $p < .01$. *** $p < .001$ † significant effect. Effects are unstandardized regression coefficients. bSE = standard error; vLLCI = Lower-Limit Confidence Interval; bULCI = Upper-Limit Confidence Interval.

.

Table 3.

Regression analyzes, where narcissism was an independent variable, externalization of blame was a mediator and verbal and physical aggression were dependent variables (N = 555). Estimates when age and gender are included as covariates are shown.

Narcissism	Verbal Aggression				Physical Aggression			
	effect	bSE	vLLCI	bULCI	effect	bSE	vLLCI	bULCI
Relative direct effects								
Narcissism -> aggression	.01***	.00	.01	.02	.01**	.00	.00	.01
Narcissism -> externalization	.01*	.00	.00	.02	.01*	.00	.00	.02
Externalization -> aggression	.34***	.04	.26	.43	.13***	.02	.09	.17
Relative indirect effect								
Narcissism -> aggression (ab)	.003†	.00	.00	.01	.001†	.00	.00	.00

* $p < .05$. ** $p < .01$. *** $p < .001$ † significant effect. Effects are unstandardized regression coefficients. bSE = standard error; vLLCI = Lower-Limit Confidence Interval; bULCI = Upper-Limit Confidence Interval.

4 Discussion

The aim of the current study was to examine the mediating role of externalization of blame in the relationship between shame proneness or narcissism and two types of aggression. Two hypotheses based on this research question were formulated. The first one, *H1*, assumed that externalization of blame mediates the relationship between shame proneness and verbal or physical aggression. On the other hand, the second hypothesis, *H2*, assumed that that externalization of blame mediates the relationship between narcissism and verbal or physical aggression.

The results of the first series of mediation analyzes supported hypothesis *H1*. Mediation via externalization of blame was, however, partial, i.e., aggressive reactions were not solely due to the activation of shame proneness and subsequent externalization of blame. In other words, the results suggest that shame proneness is associated with both verbal and physical aggression also indirectly, or by some unknown mediator.

The results of the second series of mediation analyzes showed that people with narcissist traits also externalize blame, which in turn leads to verbal aggression as well as to physical aggression. The results thus also supported hypothesis *H2*. Likewise, in this case, mediation via externalization of blame was partial, i.e., aggressive reactions were not solely due to narcissism and subsequent externalization of the blame. Thus, narcissism was associated with both verbal and physical aggression also indirectly or – again – by some unknown mediator. As compared to the association of shame proneness and aggression, the association of narcissism and aggression was weaker. This difference was shown by the measures of direct as well as indirect effect.

It is known that a shame-prone people tend to react more verbally and physically aggressively as compared to people who are not shame-prone, but the details of this relationship have remained elusive. Although some studies have found a relationship between shame and aggression, others have not (Bennett et al., 2005; Ferguson et al., 1999; Paulhus et al., 2004). As such it is difficult to find out the truth of the relationship between shame and aggression. The problem arises from the fact that the few studies that have addressed the shame-aggression connection often have not distinguished physical aggression from other related constructs, such as anger, problem behavior, hostility, or externalization of blame. These related constructs may or may not have an empirically or theoretically justified link to shame. For example, Paulhus, Robins, Trzesniewski, and Tracy, (2004) reported a positive relationship between shame and aggression. Aggression, however, was measured using the total score from the Aggression Questionnaire (Buss & Durkee, 1957) which combines verbal and physical aggression as well as anger and hostility. Still other studies have suggested a possible shame-aggression link. Sometimes direct relationship has been found (Bennett et al., 2005), while other studies have showed a positive association between shame proneness and externalizing symptoms (Ferguson et al., 1999). Taken together, these findings do not thus suggest a direct relationship between shame and physical aggression because externalizing symptoms are

often measured as a mix of not only verbal and physical aggressive items but also offending and other more non-specific items.

A previous study by Tangney et al. (1996) regarding shame proneness and verbal and physical aggression showed positive correlations between shame proneness and both physical and verbal aggression. However, Tangney et al. (1992) found no relationship between shame proneness and overt expressions of hostility, although shame was positively related to anger arousal and indirect expressions of hostility. Further, a study exploring the roles of narcissistic vulnerability and shame proneness in the relationship between childhood physical abuse (CPA) and adult anger and aggression (Keene & Epps, 2015) suggested that the combined effect of narcissistic vulnerability and shame proneness may play a role in the angry and aggressive behaviors observed in victims of CPA. Both narcissistic vulnerability and shame proneness emerged as partial mediators in the relation between CPA and trait anger and hostility. It was found that, although CPA was associated with shame proneness, shame proneness was not associated with physical aggression. In the study by Thomaes et al. (2008), the results did not provide a direct link between shame and aggression, and shame was found to lead to aggression only in individuals with a high narcissistic tendency. Furthermore, in the study of Stuewig et al. (2010), no direct link between shame proneness and verbal and physical aggression was found, but instead, the relationship was completely mediated by externalization of blame. However, in the study of Annala (2015), externalization of blame only partially mediated the relationship between shame proneness and verbal aggression. According to the results of this study aggressive reactions were thus not solely due to the activation of shame proneness and subsequent externalization of blame. The mediation analysis of the present study replicated the earlier results regarding the presence of both a direct and indirect links between shame proneness and verbal aggression. Further, while the present study replicated the result regarding the presence of an indirect link between shame proneness and physical aggression, it resulted in new results regarding the direct relationship between shame proneness and physical aggression as well.

As compared to the normal population, narcissistic people behave more verbally and physically aggressively. Accordingly, associations between different types of narcissism and aggression have been found in earlier studies (Annala, 2015; Bushman & Baumeister, 1998; Bushman, Brad J. et

al., 2003; Raskin, Robert et al., 1991; Wink, 1991). In the above-mentioned study by Keene & Epps (2015), it was found that the relation between CPA and physical aggression was partially mediated by narcissistic vulnerability. In the present study, consistent results with Annala's (2015) studies were found regarding verbal aggression, i.e. externalization of blame only partially mediated the relationship between narcissism and verbal aggression. In addition, the mediation analyzes produced new information: there exist both direct and indirect – via externalization of blame – links between narcissism and physical aggression.

How strict conclusions about possible causal relationships can be made based on the results of the present study? It is possible, for example, that from the tendency to behave aggressively is followed by a tendency to feel ashamed because aggressive behavior violates the norms of the surrounding society. It has been suggested that shame can be so painful that it is suppressed and replaced by other negative emotions, such as anger (Scheff & Retzinger, 2001; Tangney et al., 1996; Thomaes et al., 2011). This view has attained some empirical support for example from studies conducted with undergraduate students in which proneness to shame was shown to predict dysregulated anger responses, including hostility, anger arousal, and a tendency to blame others for negative events (Tangney et al., 1996; Tangney, Wagner, Fletcher, & Gramzow, 1992). Early longitudinal research identified this relation as directional, with higher levels of shame predicting later increases in hostility, while the reverse relation yielded insignificant results (Heaven et al., 2010). Further, in several studies (Bushman & Baumeister, 1998; Emmons, 1987; Harjunen, 2014; Tangney & Dearing, 2002) shame and narcissism were suggested to be the causes of aggression and not its consequences. However, some evidence regarding the bidirectional and/or reciprocal relation among shame and aggression has also been published. In a study by Cassiello-Robbins et al. (2019), shame and anger were shown to be both independently associated with impulsive, self-destructive behavior (ISDB). When the mediating roles of anger and aversive responses to emotions were studied, it was found that there was an indirect effect of shame on ISDB through both aversive reactions to emotion and anger. Interestingly, in a reverse model, using anger as the independent variable, the indirect path from anger to aversive reactions to emotions to ISDB was also found to be significant. The authors note that this path makes strong conceptual sense, given literature noting relations between anger

and self-destructive behavior. However, in contrast with some earlier studies (Heaven et al., 2010; Peters et al., 2014), an indirect path linking anger to shame through aversive reactions to emotions was also found. These findings suggest possible bidirectional and/or reciprocal relations among these constructs in which anger may make someone to shout at a friend and then feel shame about his behavior leading to ISDB. In the present study, the direction of relation between shame and aggression was not studied. As the data used in the present study were from a cross-sectional dataset, it was not possible to examine how these constructs interact over time (e.g., whether shame led to aggression or aggression led to shame). The use of longitudinal data would be necessary in order to allow for a more nuanced understanding of how these constructs unfold over time and, as previously mentioned, particularly to establish directionality, or lack thereof, in the shame-aggression relation.

It is good to note that the explanatory power of narcissism in the mediation model of the present study was so low that its relevance can be questioned – even if pathways were found to be statistically significant. However, even now, the results of the present narcissistic model can be considered as indicative of the possible existence of such a mechanism. The low degree of explanatory power for narcissism can be at least partly explained by the use of the full-scale of NPI-40, which, despite its prevalence of use, is found to be problematic (Bosson et al., 2008; Cain et al., 2008; del Rosario & White, 2005; Maxwell et al., 2011; Pincus & Lukowitsky, 2010; Rosenthal & Hooley, 2010). Theory and past empirical evidence (Ackerman et al., 2011; Gramzow & Tangney, 1992; Maxwell et al., 2011; Reidy et al., 2008) justified expectations that sub-scales would be more strongly related to aggression. This study was intended to examine especially adaptive narcissists traits, such as grandiosity, in relation to types of aggression by utilizing the subscales measuring adaptive narcissism. Unfortunately, the NPI-40 showed poor structural validity and low subscale reliability and thus the full-scale of NPI-40 was used.

It is also possible that in the present study some sub-scales measuring non-adaptive narcissism did not vary sufficiently because there were not enough narcissistic respondents in the sample of students. There exists evidence that externalization of blame may only be characteristic of pathologically narcissistic people (Pincus et al., 2014) possibly explaining why externalization of blame became only a very weak mediator of narcissism and aggression in the present study

measuring non-pathological aspects of narcissism in a sample of students. On the other hand, it has been shown that grandiose narcissists' impulsivity, overconfidence, and a willingness to ignore expert advice results in a higher likelihood of making a bad decision. After such bad decision, grandiose narcissists are likely to blame others and remain self-confident in their judgment. (O'Reilly & Hall, 2021.) Thus, it would be important to explore the connections of the grandiose site of narcissism and externalization of blame in relation of aggression more thoroughly.

It is possible that the grandiose and vulnerable forms of narcissism do not exist as such as suggested in the previous studies making studies directed to the grandiose or vulnerable site of narcissism more challenging (Corry et al., 2008; Emmons, 1987; Kubarych et al., 2004; Raskin & Terry, 1988). It is not even clear whether non-pathological and pathological narcissism are different extremes of the same trait or completely different features. Furthermore, it has been suggested that one significant reason for poor structural validity and reliability of NPI-40 may be that phenotypic descriptions of narcissism within the field of research as compared to clinical theory and to practical work are different from each other (Pincus & Lukowitsky, 2010). It is also possible that the association of grandiose narcissism – that NPI mostly measures – with aggression is weaker than that of vulnerable narcissism. It is the aim of future studies to examine the association of vulnerable narcissism and aggression, and whether this association is direct and/or mediated by externalization of blame.

Structural invalidity issues also concern the ARI meter. In a former study by Annala (2015), the attempts to factorize ARI subscales did not work without problems. Especially regarding the physical aggression, but also the verbal aggression, the responses were found to be far from normally distributed. Also, in the present study, the low variability in the item responses was a problem regarding especially the physical aggression items, but also the verbal aggression items. This problem may relate to social desirability: as aggressiveness is generally not desirable or acceptable, even if the respondent would probably admit to himself behaving aggressively in such a situation, it may not be desired admit it to others. This problem may also have affected the non-adaptive sides of NPI-40, although answering was anonymous.

Finally, it should be noted that most of the respondents (74%) were women. There is consistent evidence that women use physical aggression significantly less than men (Hess & Hagen, 2006). Perhaps a more male-dominated sample would have brought out more variation in these in the sections measuring aggression species. On the other hand, a meta-analysis by Grijalva et al. (2015) drew a conclusion that men have higher levels of narcissism than women. Thus, the effects regarding narcissism may have been stronger if more men had been recruited to the study. To minimize the effects of gender and age to the results, the effects of gender and age were controlled in the mediation analysis. Interestingly, when the analyses were done without this control, the results were the same.

Although the sample size was large enough, a possible limitation of the present study follows from the fact that the obtained sample of participants was relatively homogeneous, as participants were predominantly Caucasian high school students enrolled in a university, which reduces generalizability to the entire population. It should be noted that antisocial behavior and lower socio-economic status have been linked in several studies (Rutter et al., 1998; Tuvblad et al., 2006). This study would be strengthened by inclusion of samples of greater ethnic and socioeconomic diversity. Further, extending this work with task-based measures and experimental designs would strengthen support for the pathways obtained in this study. Given the multiple potential pathways from both shame and narcissism to aggressive behaviors, careful functional analysis may be important to determine the mechanisms at play for any one individual. Additional factors not examined in the present study may also influence these pathways.

Possible clinical application of the results of the present study could relate to the fact that elevated shame and anger are common across a wide range of emotional disorders and are also known to predict greater disorder severity (Bennett et al., 2016; Cassiello-Robbins & Barlow, 2016). Given the interrelated nature of common negative emotions (such as shame, anger, anxiety, and sadness), it can be hypothesized that the use of treatments that can flexibly address several dysregulated emotions may be used. Indeed, preliminary evidence suggests that treatments such as Dialectical Behavior Therapy (DBT; Eist, 2015) and Acceptance and Commitment Therapy (ACT; Hayes, S. C. et al., 2012) that focus on changing dysfunctional responses to emotions and could intervene well on the processes thought to maintain dysregulated emotions, can reduce shame and anger in patients

with borderline personality disorder or substance use disorders (Luoma et al., 2012; Neacsiu et al., 2018; Rizvi & Linehan, 2005). Another intent of the current study is to suggest treatment implications arguing that shame and its connection to violence could be the focus of interventions with the offenders of violent acts. Day, Gerace, Wilson, and Howells (2008) have proposed "forgiveness therapy" as therapeutic approach for violent offenders who could not forgive their own misdeeds. Howells emphasized that assistance in therapeutic management of shame may be more useful than anger-management treatment for these patients. Similarly, Walker and Bright (2009) have reported reduction of violent acts by combination of cognitive behavioral and psychodynamic approaches focusing to the enhancement of shame- and humiliation-coping, and the strengthening of the inner sense of self-esteem.

Both shame and self-esteem instability have been shown to significantly and positively correlate with aggression (Falkenbach et al., 2013). On the other hand, narcissism has been linked to self-esteem instability (Rhodewalt & Morf, 1998). In the present study, it was shown that shame proneness and narcissism – both linked to self-esteem instability – were associated with narcissism, via the same mediating factor, externalization of blame. In future, it would be interesting to further study the stability of self-esteem as a predictor of aggression. Longitudinal studies as well as laboratory studies will be needed to appropriately evaluate the direct and indirect links of shame proneness and narcissism with aggression.

The results thus show that externalization of blame mediates the link of both shame proneness and narcissism to both verbal and physical aggression. Overall, the study had its contributions to the research of shame proneness and narcissism. This study also provides a partial answer to the question why aggression occurs.

References

Ackerman, R. A., Witt, E. A., Donnellan, M. B., Trzesniewski, K. H., Robins, R. W., & Kashy, D. A. (2011). What Does the Narcissistic Personality Inventory Really Measure? *Assessment (Odessa, Fla.); Assessment, 18*(1), 67-87.

American Psychiatric Association. (2013). *Diagnostic and Statistical Manual of Mental Disorders* (5th ed.)

Ames, D. L., & Fiske, S. T. (2013). Intentional Harms Are Worse, Even When They're Not. *Psychological Science; Psychol Sci, 24*(9), 1755-1762. 10.1177/0956797613480507

Andrew, I. W. J., Jan R. Böhnke, Young, A. W., & Lewis, G. J. (2015). Modelling verbal aggression, physical aggression and inappropriate sexual behaviour after acquired brain injury. *Proceedings of the Royal Society.B, Biological Sciences; Proc Biol Sci, 282*(1811), 1-8. 10.1098/rspb.2015.0711

Annala, M. (2015). *Aggressiivisempi ihminen : Syynulkoistamistaipumus välittämässä häpeäherkkyyden ja narsismin yhteyksiä aggressiivisuuteen*. Helsingfors universitet.

Baron, R. A., & Richardson, D. R. (1994). Perspectives in social psychology. *Human aggression, 2nd. ed.* (). Plenum Press.

Baumeister, R. F., Bushman, B. J., & Keith Campbell, W. (2000). Self-Esteem, Narcissism, and Aggression: Does Violence Result from Low Self-Esteem or from Threatened Egotism?

Current Directions in Psychological Science : A Journal of the American Psychological Society; Curr Dir Psychol Sci, *9*(1), 26-29. 10.1111/1467-8721.00053

Baumeister, R. F., Smart, L., & Boden, J. M. (1996). Relation of Threatened Egotism to Violence and Aggression: The Dark Side of High Self-Esteem. *Psychological Review; Psychol Rev*, *103*(1), 5-33. 10.1037/0033-295X.103.1.5

Bear, G. G., Uribe-Zarain, X., Manning, M. A., & Shiomi, K. (2009). Shame, guilt, blaming, and anger: Differences between children in Japan and the US. *Motivation and Emotion*, *33*(3), 229-238.

Bennett, D. S., Sullivan, M. W., & Lewis, M. (2005). Young Children's Adjustment as a Function of Maltreatment, Shame, and Anger. *Child Maltreatment; Child Maltreat*, *10*(4), 311-323.

Bennett, D. S., Traub, K., Mace, L., Juarascio, A., & O'Hayer, C. V. (2016). Shame among people living with HIV: a literature review. *AIDS Care; AIDS Care*, *28*(1), 87-91. 10.1080/09540121.2015.1066749

Birtchnell, J. (1997). *The psychology of shame: Theory and treatment of shame-based syndromes: Gershen Kaufman: New York: Springer (1996). 353 pp. $47.97*. Elsevier Ltd. 10.1016/S0191-8869(97)85593-6

Bosson, J. K., Lakey, C. E., Campbell, W. K., Zeigler-Hill, V., Jordan, C. H., & Kernis, M. H. (2008). Untangling the Links between Narcissism and Self-esteem: A Theoretical and Empirical Review. *Social and Personality Psychology Compass, 2*(3), 1415-1439.

Breggin, P. R. (2015). The biological evolution of guilt, shame and anxiety: A new theory of negative legacy emotions. *Medical Hypotheses; Med Hypotheses, 85*(1), 17-24. 10.1016/j.mehy.2015.03.015

Brown, R. P., & Zeigler-Hill, V. (2004). Narcissism and the non-equivalence of self-esteem measures: A matter of dominance? *Journal of Research in Personality, 38*(6), 585-592. 10.1016/j.jrp.2003.11.002

Bushman, B. J., & Baumeister, R. F. (1998). Threatened egotism, narcissism, self-esteem, and direct and displaced aggression : Does self-love or self-hate lead to violence ? *Journal of Personality and Social Psychology; J Pers Soc Psychol, 75*(1), 219-229.

Bushman, B. J., Bonacci, A. M., Dijk, M. v., & Baumeister, R. F. (2003). Narcissism, Sexual Refusal, and Aggression: Testing a Narcissistic Reactance Model of Sexual Coercion. *Journal of Personality and Social Psychology; J Pers Soc Psychol, 84*(5), 1027-1040.

Buss, A. H., & Durkee, A. (1957). An inventory for assessing different kinds of hostility. *Journal of Consulting Psychology; J Consult Psychol, 21*(4), 343-349. 10.1037/h0046900

Cain, N. M., Pincus, A. L., & Ansell, E. B. (2008). Narcissism at the crossroads: Phenotypic description of pathological narcissism across clinical theory, social/personality psychology, and psychiatric diagnosis. *Clinical Psychology Review; Clin Psychol Rev, 28*(4), 638-656.

Cassiello-Robbins, C., & Barlow, D. H. (2016). Anger: The Unrecognized Emotion in Emotional Disorders. *Clinical Psychology (New York, N.Y.), 23*(1), 66-85. 10.1111/cpsp.12139

Cassiello-Robbins, C., Wilner, J. G., Peters, J. R., Bentley, K. H., & Sauer-Zavala, S. (2019). Elucidating the relationships between shame, anger, and self-destructive behaviors: The role of aversive responses to emotions. *Journal of Contextual Behavioral Science; J Contextual Behav Sci, 12*, 7-12. 10.1016/j.jcbs.2018.12.004

Clarke, I. E., Karlov, L., & Neale, N. J. (2015). The many faces of narcissism: Narcissism factors and their predictive utility. *Personality and Individual Differences, 81*, 90-95.

Corry, N., Merritt, R. D., Mrug, S., & Pamp, B. (2008). The Factor Structure of the Narcissistic Personality Inventory. *Journal of Personality Assessment; J Pers Assess, 90*(6), 593-600.

Darwin, C. (1871). *The Descent of Man, and Selection in Relation to Sex* (1st ed.). John Murray.

Day, A., Gerace, A., Wilson, C., & Howells, K. (2008). Promoting forgiveness in violent offenders: A more positive approach to offender rehabilitation? *Aggression and Violent Behavior, 13*(3), 195-200. 10.1016/j.avb.2008.03.004

del Rosario, P.,M., & White, R. M. (2005). The Narcissistic Personality Inventory: Test–retest stability and internal consistency. *Personality and Individual Differences, 39*(6), 1075-1081.

Dickinson, K. A., & Pincus, A. L. (2003). Interpersonal analysis of grandiose and vulnerable narcissism. *Journal of Personality Disorders; J Pers Disord, 17*(3), 188-207. 10.1521/pedi.17.3.188.22146

Eist, H. I. (2015). DBT Skills Training Manual, 2nd Ed. Marsha M. Linehan (2015) New York: The Guilford Press. 504 pp. DBT Skills Training Handouts and Worksheets, 2nd Ed. Marsha M. Linehan (2015) New York: The Guilford Press. 422 pp. *The Journal of Nervous and Mental Disease, 203*(11), 887. 10.1097/NMD.0000000000000387

Elison, J., Garofalo, C., & Velotti, P. (2014). Shame and aggression: Theoretical considerations. *Aggression and Violent Behavior, 19*(4), 447-453.

Emmons, R. A. (1984). Factor Analysis and Construct Validity of the Narcissistic Personality Inventory. *Journal of Personality Assessment; J Pers Assess, 48*(3), 291-300.

Emmons, R. A. (1987). Narcissism: Theory and Measurement. *Journal of Personality and Social Psychology, 52*(1), 11-17.

Falkenbach, D. M., Howe, J. R., & Falki, M. (2013). Using self-esteem to disaggregate psychopathy, narcissism, and aggression. *Personality and Individual Differences, 54*(7), 815-820. 10.1016/j.paid.2012.12.017

Ferguson, T. J., Stegge, H., Miller, E. R., & Olsen, M. E. (1999). Guilt, Shame, and Symptoms in Children. *Developmental Psychology; Dev Psychol, 35*(2), 347-357.

Field, A. P. (2009). *Discovering statistics using SPSS : and sex and drugs and rock 'n' roll* (3rd ed.). SAGE.

Fischer, K. W., Fisher, K. W., Tangney, J. P., & Tangnie, J. P. (1995). *Self-conscious emotions : the psychology of shame, guilt, embarrassment, and pride*. Guilford Press.

Furukawa, E., Tangney, J., & Higashibara, F. (2012). Cross-cultural Continuities and Discontinuities in Shame, Guilt, and Pride: A Study of Children Residing in Japan, Korea and the USA. *Self and Identity, 11*(1), 90-113.

Gentile, B., Miller, J. D., Hoffman, B. J., Reidy, D. E., Zeichner, A., & Campbell, W. K. (2013). A Test of Two Brief Measures of Grandiose Narcissism: The Narcissistic Personality Inventory-13 and the Narcissistic Personality Inventory-16. *Psychological Assessment; Psychol Assess, 25*(4), 1120-1136. 10.1037/a0033192

Gosling, P., Denizeau, M., & Oberlé, D. (2006). Denial of Responsibility: A New Mode of Dissonance Reduction. *Journal of Personality and Social Psychology; J Pers Soc Psychol, 90*(5), 722-733. 10.1037/0022-3514.90.5.722

Goss, K., & Allan, S. (2009). Shame, pride and eating disorders. *Clinical Psychology and Psychotherapy; Clin Psychol Psychother, 16*(4), 303-316. 10.1002/cpp.627

Gramzow, R., & Tangney, J. P. (1992). Proneness to shame and narcissistic personality. *Personality & Social Psychology Bulletin, 18*, 369-376.

Greene, R. L. (1991). *The MMPI-2/MMPI: An interpretive manual*. Allyn&Bacon.

Grijalva, E., Newman, D. A., Tay, L., Donnellan, M. B., Harms, P. D., Robins, R. W., & Yan, T. (2015). Gender Differences in Narcissism: A Meta-Analytic Review. *Psychological Bulletin; Psychol Bull, 141*(2), 261-310. 10.1037/a0038231

Hair, J. H., Black, W. C., Babin, B. J., & Anderson, E., R. (2014). *Multivariate Data Analysis* (7th ed.). Pearson Education.

Harjunen, V. (2014). *Epäsuora aggressiivisuus reaktiona häpeää tuottavaan arviointitilanteeseen : Häpeäherkkyys ja narsistinen persoonallisuus aggressiivisuuden voimakkuutta säätelevinä tekijöinä*. Helsingfors universitet.

Hayes, A. F. (2017). *Introduction to mediation, moderation, and conditional process analysis: a regression-based approach*. The Guilford Press.

Hayes, S. C., Strosahl, K. D., & Wilson, K. G. (2012). *Acceptance and commitment therapy: The process and practice of mindful change, 2nd ed*. Guilford Press.

Heaven, P. C. L., Ciarrochi, J., & Leeson, P. (2010). Parental Styles and Religious Values Among Teenagers: A 3-Year Prospective Analysis. *The Journal of Genetic Psychology; J Genet Psychol, 171*(1), 93-99. 10.1080/00221320903500861

Hess, N. H., & Hagen, E. H. (2006). Sex differences in indirect aggression: Psychological evidence from young adults. *Evolution and Human Behavior, 27*(3), 231-245.

Hirschi, T. (1969). *Causes of delinquency*. University of California press.

Hoover, J. D. (2014). Complexity avoidance, narcissism and experiential learning. *Developments in Business Simulation and Experimential Learning, 39*, 255-260.

Horney, K. (1950). *The collected works of Karen Horney. Vol. 2, Self analysis; Neurosis and human growth*. W. W. Norton & company, inc.

IBM Corp. (2019). *IBM SPSS Statistics for Windows, Version 26.0*. IBM Corp.

Keene, A. C., & Epps, J. (2015). Childhood physical abuse and aggression: Shame and narcissistic vulnerability. *Child Abuse & Neglect; Child Abuse Negl, 51*, 276-283. 10.1016/j.chiabu.2015.09.012

Kernis, M. H., Cornell, D. P., Sun, C., Berry, A., & Harlow, T. (1993). There's More to Self-Esteem Than Whether It Is High or Low: The Importance of Stability of Self-Esteem. *Journal of Personality and Social Psychology; J Pers Soc Psychol, 65*(6), 1190-1204. 10.1037/0022-3514.65.6.1190

Kjærvik, S.,L., & Bushman, B. J. (2021). The link between narcissism and aggression: A meta-analytic review. *Psychological Bulletin,* 10.1037/bul0000323

Krizan, Z., & Herlache, A. D. (2018). The Narcissism Spectrum Model: A Synthetic View of Narcissistic Personality. *Personality and Social Psychology Review; Pers Soc Psychol Rev, 22*(1), 3-31. 10.1177/1088868316685018

Krizan, Z., & Johar, O. (2015). Narcissistic Rage Revisited. *Journal of Personality and Social Psychology; J Pers Soc Psychol, 108*(5), 784-801. 10.1037/pspp0000013

Kubarych, T. S., Deary, I. J., & Austin, E. J. (2004). The Narcissistic Personality Inventory: factor structure in a non-clinical sample. *Personality and Individual Differences, 36*(4), 857-872.

Lewis, H. B. (1971). *Shame and guilt in neurosis*. International Universities Press.

Luoma, J. B., Kohlenberg, B. S., Hayes, S. C., & Fletcher, L. (2012). Slow and Steady Wins the Race: A Randomized Clinical Trial of Acceptance and Commitment Therapy Targeting Shame in Substance Use Disorders. *Journal of Consulting and Clinical Psychology; J Consult Clin Psychol, 80*(1), 43-53. 10.1037/a0026070

MacDonald, G., & Leary, M. R. (2005). Why Does Social Exclusion Hurt? The Relationship Between Social and Physical Pain. *Psychological Bulletin; Psychol Bull, 131*(2), 202-223.

Maxwell, K., Donnellan, M. B., Hopwood, C. J., & Ackerman, R. A. (2011). The two faces of Narcissus? An empirical comparison of the Narcissistic Personality Inventory and the Pathological Narcissism Inventory. *Personality and Individual Differences, 50*(5), 577-582.

Miller, J. D., Lynam, D. R., Hyatt, C. S., & Campbell, W. K. (2017). Controversies in Narcissism. *Annual Review of Clinical Psychology; Annu Rev Clin Psychol, 13*(1), 291-315. 10.1146/annurev-clinpsy-032816-045244

Miller, J. D., Gaughan, E. T., Pryor, L. R., Kamen, C., & Campbell, W. K. (2009). Corrigendum to “Is research using the narcissistic personality inventory relevant for understanding

narcissistic personality disorder?" [Journal of Research in Personality 43 (2009) 482–488]. *Journal of Research in Personality, 43*(5), 951.

Miller, J. D., Few, L. R., Wilson, L., Gentile, B., Widiger, T. A., MacKillop, J., & Keith Campbell, W. (2013). The Five-Factor Narcissism Inventory (FFNI): A Test of the Convergent, Discriminant, and Incremental Validity of FFNI Scores in Clinical and Community Samples. *Psychological Assessment; Psychol Assess, 25*(3), 748-758. 10.1037/a0032536

Miller, J. D., Hoffman, B. J., Gaughan, E. T., Gentile, B., Maples, J., & Keith Campbell, W. (2011). Grandiose and Vulnerable Narcissism: A Nomological Network Analysis. *Journal of Personality; J Pers, 79*(5), 1013-1042. 10.1111/j.1467-6494.2010.00711.x

Nathanson, D. L. (1992). *Shame and pride : affect, sex, and the birth of the self*. Norton.

Neacsiu, A. D., Rompogren, J., Eberle, J. W., & McMahon, K. (2018). Changes in Problematic Anger, Shame, and Disgust in Anxious and Depressed Adults Undergoing Treatment for Emotion Dysregulation. *Behavior Therapy; Behav Ther, 49*(3), 344-359. 10.1016/j.beth.2017.10.004

O'Reilly, C.,A., & Hall, N. (2021). Grandiose narcissists and decision making: Impulsive, overconfident, and skeptical of experts–but seldom in doubt. *Personality and Individual Differences; Pers Individ Dif, 168*, 110280. 10.1016/j.paid.2020.110280

Paulhus, D. L., Robins, R. W., Trzesniewski, K. H., & Tracy, J. L. (2004). Two Replicable Suppressor Situations in Personality Research. *Multivariate Behavioral Research; Multivariate Behav Res, 39*(2), 303-328.

Peters, J. R., Geiger, P. J., Smart, L. M., & Baer, R. A. (2014). Shame and Borderline Personality Features: The Potential Mediating Role of Anger and Anger Rumination. *Personality Disorders; Personal Disord, 5*(1), 1-9. 10.1037/per0000022

Pincus, A. L., Ansell, E. B., Pimentel, C. A., Cain, N. M., Wright, A. G. C., & Levy, K. N. (2009). Initial Construction and Validation of the Pathological Narcissism Inventory. *Psychological Assessment; Psychol Assess, 21*(3), 365-379. 10.1037/a0016530

Pincus, A. L., Cain, N. M., & Wright, A. G. C. (2014). Narcissistic Grandiosity and Narcissistic Vulnerability in Psychotherapy. *Personality Disorders; Personal Disord, 5*(4), 439-443.

Pincus, A. L., & Lukowitsky, M. R. (2010). Pathological narcissism and narcissistic personality disorder. *Annual Review of Clinical Psychology; Annu Rev Clin Psychol, 6*(1), 421-446.

Raskin, R. N., & Hall, C. S. (1979). A narcissistic personality inventory. *Psychological Reports, 45*(2), 590.

Raskin, R., Novacek, J., & Hogan, R. (1991). Narcissistic Self-Esteem Management. *Journal of Personality and Social Psychology, 60*(6), 911-918.

Raskin, R., & Terry, H. (1988). A Principal-Components Analysis of the Narcissistic Personality Inventory and Further Evidence of Its Construct Validity. *Journal of Personality and Social Psychology, 54*(5), 890-902.

Reidy, D. E., Zeichner, A., Foster, J. D., & Martinez, M. A. (2008). Effects of narcissistic entitlement and exploitativeness on human physical aggression. *Personality and Individual Differences, 44*(4), 865-875.

Rhodewalt, F., & Morf, C. C. (1998). On Self-Aggrandizement and Anger: A Temporal Analysis of Narcissism and Affective Reactions to Success and Failure. *Journal of Personality and Social Psychology; J Pers Soc Psychol, 74*(3), 672-685. 10.1037/0022-3514.74.3.672

Rizvi, S. L., & Linehan, M. M. (2005). The treatment of maladaptive shame in borderline personality disorder: A pilot study of "opposite action". *Cognitive and Behavioral Practice, 12*(4), 437-447. 10.1016/S1077-7229(05)80071-9

Rosenthal, S. A., & Hooley, J. M. (2010). Narcissism assessment in social–personality research: Does the association between narcissism and psychological health result from a confound with self-esteem? *Journal of Research in Personality*, *44*(4), 453-465.

Rucker, D. D., Preacher, K. J., Tormala, Z. L., & Petty, R. E. (2011). Mediation Analysis in Social Psychology: Current Practices and New Recommendations: Mediation Analysis in Social Psychology. *Social and Personality Psychology Compass, 5*(6), 359-371.

Rutter, M., Giller, H., & Hagell, A. (1998). Antisocial Behaviour by Young People. *Child Psychology & Psychiatry Review; Child Psychol.Psychiatr.Rev, 4*(1), 42-45.

Scheff, T. J., & Retzinger, S. M. (2001). *Emotions and violence : shame and rage in destructive conflicts*. Authors Guild Backinprint.com.

Schoenleber, M., & Berenbaum, H. (2012). Shame Regulation in Personality Pathology. *Journal of Abnormal Psychology (1965); J Abnorm Psychol, 121*(2), 433-446. 10.1037/a0025281

Schoenleber, M., Roche, M. J., Wetzel, E., Pincus, A. L., & Roberts, B. W. (2015). Development of a Brief Version of the Pathological Narcissism Inventory. *Psychological Assessment; Psychol Assess, 27*(4), 1520-1526. 10.1037/pas0000158

Shahsavarani, A. M., Noohi, S., Jafari, S., Kalkhoran, M. H., & Hatefi, S. (2015). Assessment & Measurement of Anger in Behavioral and Social Sciences:
A Systematic Review of Literature. *International Journal of Medical Reviews, 2*(3), 279-286.

Stuewig, J., Tangney, J. P., Heigel, C., Harty, L., & McCloskey, L. (2010). Shaming, blaming, and maiming: Functional links among the moral emotions, externalization of blame, and aggression. *Journal of Research in Personality; J Res Pers, 44*(1), 91-102.

Tabachnick, B. G., & Fidell, L. S. (2013). *Using Multivariate Statistics*. Pearson Education UK.

Tabachnick, B. G., & Fidell, L. S. (2014). *Using multivariate statistics* (6th ed.). Pearson.

Tangney, J. P. (1989,). Shame and guilt in young adulthood: a qualitative analysis.

Tangney, J. P. (1990). Assessing Individual Differences in Proneness to Shame and Guilt: Development of the Self-Conscious Affect and Attribution Inventory. *Journal of Personality and Social Psychology; J Pers Soc Psychol, 59*(1), 102-111.

Tangney, J. P., & Dearing, R. L. (2002). *Shame and guilt*. Guilford Press.

Tangney, J. P., Dearing, R. L., Wagner, P. E., & Gramzow, R. (2000). *The Test of Self-Conscious Affect–3 (TOSCA–3)*. George Mason University.

Tangney, J. P., Wagner, P. E., Hill-Barlow, D., Marschall, D. E., & Gramzow, R. (1996). Relation of Shame and Guilt to Constructive Versus Destructive Responses to Anger Across the Lifespan. *Journal of Personality and Social Psychology; J Pers Soc Psychol, 70*(4), 797-809.

Tangney, J. P., Wagner, P. E., Marschall, D., & Gramzow, R. (1991). *The anger response inventory (ARI)*. George Mason University.

Tangney, J. P., Wagner, P., Fletcher, C., & Gramzow, R. (1992). Shamed Into Anger? The Relation of Shame and Guilt to Anger and Self-Reported Aggression. *Journal of Personality and Social Psychology; J Pers Soc Psychol, 62*(4), 669-675.

Thomaes, S., Bushman, B. J., Stegge, H., & Olthof, T. (2008). Trumping Shame by Blasts of Noise: Narcissism, Self-Esteem, Shame, and Aggression in Young Adolescents. *Child Development; Child Dev, 79*(6), 1792-1801.

Thomaes, S., Stegge, H., Olthof, T., Bushman, B. J., & Nezlek, J. B. (2011). Turning shame inside-out: Humiliating fury in young adolescents. *Emotion (Washington, D.C.), 11*, 786-793.

Tuvblad, C., Grann, M., & Lichtenstein, P. (2006). Heritability for adolescent antisocial behavior differs with socioeconomic status: gene–environment interaction. *Journal of Child Psychology and Psychiatry; J Child Psychol Psychiatry, 47*(7), 734-743.

Vassilopoulos, A., & Reitman, D. (2020). Physical and Verbal Aggression. *The Encyclopedia of Child and Adolescent Development* (). John Wiley & Sons, Inc.

Walker, J. S., & Bright, J. A. (2009). Cognitive therapy for violence: reaching the parts that anger management doesn't reach. *The Journal of Forensic Psychiatry & Psychology, 20*(2), 174-201. 10.1080/14789940701656832

Watson, P. J., Hickman, S. E., & Morris, R. J. (1996). Self-reported narcissism and shame: Testing the defensive self-esteem and continuum hypotheses. *Personality and Individual Differences, 21*(2), 253-259. 10.1016/0191-8869(96)00063-3

Weiner, B. (2006). *Social motivation, justice, and the moral emotions : an attributional approach*. Lawrence Erlbaum Associates.

Weiner, B. (1995). *Judgments of responsibility : a foundation for a theory of social conduct*. The Guilford Press.

Wink, P. (1991). Two Faces of Narcissism. *Journal of Personality and Social Psychology*, *61*(4), 590-597.

Wright, A. G., & Edershile, E. A. (2018). Issues resolved and unresolved in pathological narcissism. *Curr Opin Psychol, 21*, 74-79. 10.1016/j.copsyc.2017.10.001

Wright, K., Gudjonsson, G. H., & Young, S. (2008). An investigation of the relationship between anger and offence-related shame and guilt. *Psychology, Crime & Law*, *14*(5), 415-423.

Zanetti, T., & Patel, F. (2014). *Mirror Mirror on the Wall, Who's The Thinnest of Them All?: Reflections on Anorexia Nervosa in Adolescence*. Nova Science Publishers, Incorporated.

Zeigler-Hill, V., Green, B. A., Arnau, R. C., Sisemore, T. B., & Myers, E. M. (2010). Trouble ahead, trouble behind: Narcissism and early maladaptive schemas. *Journal of Behavior Therapy and Experimental Psychiatry; J Behav Ther Exp Psychiatry*, *42*(1), 96-103. 10.1016/j.jbtep.2010.07.004

Appendices

Appendix A: The structure matrix of TOSCA-3

Only loadings with strength over .30 are shown in the table.

Item	FACTOR		
	1	2	3
FACTOR 1: SHAME			
T2A	**.35**	-.02	.30
T2B	**.43**	.22	.02
T3E	**.31**	.26	.16
T4A	**.53**	.10	.17
T4C	**.39**	.08	.35
T5C	**.36**	.28	-.31
T6C	**.44**	.26	.14
T7A	**.47**	.28	.25
T8A	**.45**	.20	.16
T9B	**.51**	.09	.25
T10D	**.63**	.15	.16
T12B	**.43**	.07	.29
T13B	**.66**	.04	.14
T14A	**.46**	.21	.34
T14C	**.41**	.12	.35
T15A	**.59**	.17	.16
T16C	**.55**	.16	.03
FACTOR 2: EXTERNALIZATION			
T1D	.25	**.36**	.11
T2C	.01	**.48**	.05
T3D	.11	**.35**	.06
T4B	.22	**.32**	.09
T5A	.15	**.49**	.02
T6E	.20	**.36**	-.07
T7B	.03	**.45**	-.10
T8B	.30	**.41**	.06
T9A	-.00	**.42**	-.07

T10B	.28	**.39**	.02
T13A	.13	**.52**	-.03
T14B	.21	**.47**	-.15
T15B	.05	**.46**	-.05
T16D	.10	**.40**	.01
FACTOR 3: GUILT			
T1C	.13	-.04	**.46**
T3A	.25	.20	**.36**
T5D	.01	-.17	**.60**
T7D	.09	-.20	**.38**
T8C	.22	.11	**.54**
T9D	.36	-.05	**.37**
T10C	.22	.03	**.38**
T11A	.11	.14	**.35**
T11B	.32	.16	**.42**
T11E	.20	-.04	**.48**
T12D	.11	-.02	**.52**
T13C	.24	-.06	**.38**
T15C	.15	.04	**.32**
T16B	.03	-.05	**.43**

Appendix B: The structure matrix of ARI

Only loadings with strength over .30 are shown in the table.

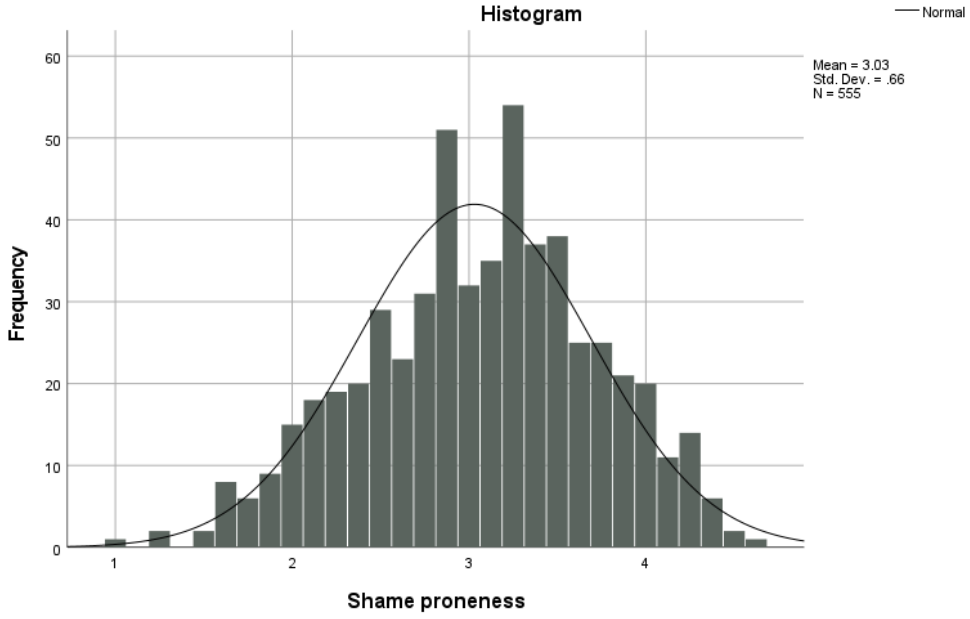
Item	FACTOR	
	1	2
FACTOR 1: Verbal aggression		
A1K	**.36**	.10
A2I	**.45**	.16
A3H	**.48**	.15
A3J	**.44**	.14
A7K	**.35**	.20
A8E	**.35**	.11
A9K	**.57**	.13
A10H	**.37**	.12

A12E	**.51**	.22
A13F	**.51**	.13
A14E	**.44**	.14
A16K	**.39**	.19
A18H	**.34**	.11
A18K	**.49**	.23
A20K	**.58**	.10
A21F	**.44**	.12
A22K	**.41**	.16

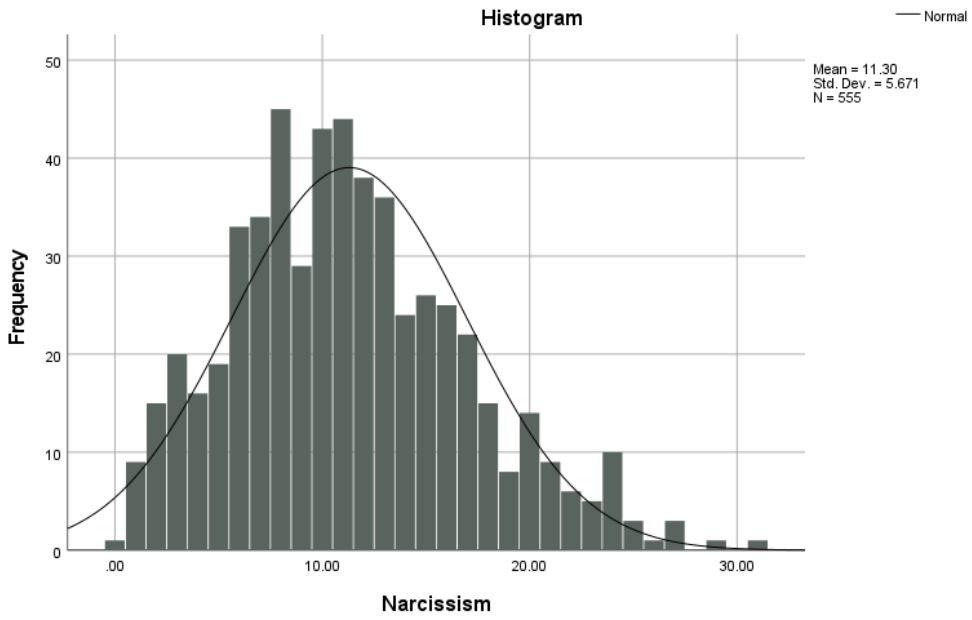
FACTOR 2: Physical aggression

A4H	.16	**.54**
A5I	.24	**.51**
A5K	.26	**.65**
A6H	.22	**.41**
A12I	.27	**.31**
A13E	.18	**.66**
A17H	.13	**.70**
A21I	.17	**.45**
A23H	.10	**.43**

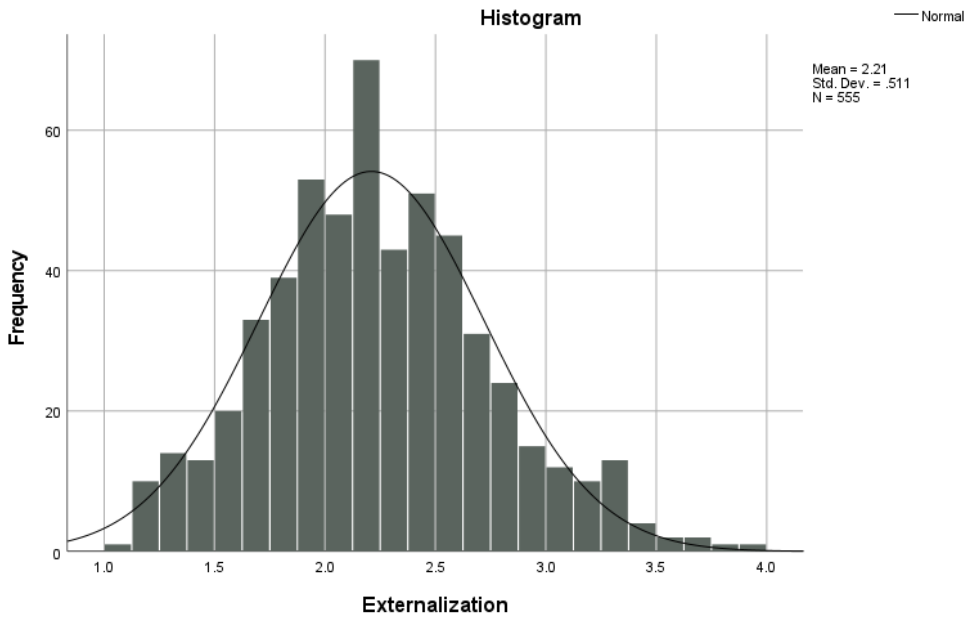
Appendix C: Visualization of shame proneness' sum scores



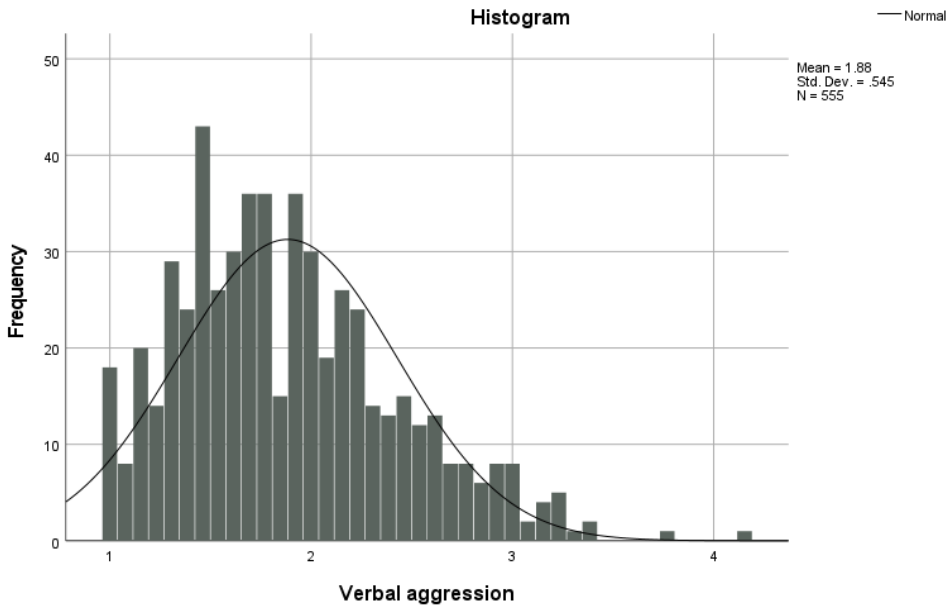
Appendix D: Visualization of narcissism's sum scores



Appendix E: Visualization of externalization of blame's sum scores



Appendix F: Visualization of verbal aggression's sum scores



Appendix G: Visualization of physical aggression's sum scores